

well back in the nasal passages, and were broken off and removed during the operation for deflection. I recall one case in a young woman where the osteophytic deposit was near the posterior naris, where it could barely be reached by the tip of the little finger. If this bony mass had not been discovered, complete restoration of the respiratory function of that side would not have resulted, as was the case after the osteophytes had been removed and the deflection corrected.

SUMMARY. 1. Under an anæsthetic, with the little finger as an intelligent probe, certain osseous structures foreign to normal nasal conditions may be found.

2. That these osseous masses are osteophytes, having the anatomical structure of such bodies.

3. That osteophytes, clinically, are *new* conditions to be considered and studied.

4. That in operations for deflection of the nasal septum, lack of complete success may result from their presence.

5. That osteophytes are loose in structure and readily removed by proper instruments.

A REVIEW OF SOME RECENT LITERATURE ON CERTAIN INFECTIVE DISEASES.

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SYPHILIS. The occurrence of fever as a manifestation of syphilis has been known for some time, it having been commented upon especially by Musser and by Osler. More recently, Fitcher,¹ writing on the subject, states that in all cases of fever of obscure origin the possibility of the fever being syphilitic in nature should be borne in mind, and that careful examination of the long bones, skin, and viscera should be made, with a view to detecting manifestations of syphilitic infection. He states, also, that the fever of syphilis may occur at different periods during the course of the disease: 1. It may occur in very rare instances three or four weeks before the onset of the secondary skin eruption. This fever is very puzzling and, until the appearance of the eruption, it is likely to be attributed to some other cause. 2. It may precede or be coincident with the appearance of the secondary eruption. This is the so-called "fever of invasion," and it is a very common and important symptom of secondary syphilis. 3. The fever

¹ Syphilitic Fever. New York Medical Journal, 1901, vol. lxxiii. p. 1065.

may occur at any time during the course of the secondary or tertiary stages. The late occurrence of the fever is the most interesting feature. In one of the cases reported it occurred twenty-nine years after the disease had been contracted. It is said that the fever of invasion is rarely absent at the onset of the secondary symptoms. It usually precedes the appearance of the secondary eruption by a week or ten days; rarely by more than two weeks. It is generally believed to be a symptom of the invasion of the system by the organism the cause of syphilis or by its toxic products. The degree of fever varies in different cases; it may be moderate (101° F.), but sometimes it is much higher (104° to 105° F.) in the afternoon. The fever of invasion, as well as the syphilitic fever associated with the late manifestations of the disease, may present any one of the three following clinical types: (1) A mild continuous pyrexia, in which the temperature ranges in the neighborhood of 101° F.; Osler states that this type is not uncommon in the fever that ushers in the constitutional symptoms; (2) a remittent type of fever, with morning drops toward normal and evening exacerbations—the usual fever of invasion; (3) a definite intermittent fever; this is the most remarkable form of all, and it is the type that is most likely to lead to diagnostic errors. It is sometimes accompanied by chills and fever. The febrile diseases for which syphilis is often mistaken are the malarial fevers, typhoid fever, tuberculosis, and sepsis. When general pains and joint pains accompany the fever the diagnosis of rheumatism may be made. In doubtful cases the true nature of the fever may be demonstrated readily by instituting anti-syphilitic treatment.

Carriere,¹ writing of syphilitic fever, states that it is extremely rare (a statement that will not meet concurrence on the part of those who see much of the disorder), and that during the past ten years he has observed but two instances of it. The fever is said to develop usually within forty to sixty days after the initial sore, but sometimes much later. Women especially are likely to have the fever, probably, it is believed, because the initial lesion may go undetected and untreated, and a severe infection thus occur. The febrile affections for which the syphilitic fever may be mistaken are malaria, psittacosis, cerebro-spinal meningitis, miliary fever, pyemia, verrucosa endocarditis, miliary tuberculosis, recurrent fever, and influenza. It is only in the most unusual cases that diagnostic difficulties are likely to arise, but the differentiation from typhoid fever may be perplexing. Attention to the following will facilitate the diagnosis: 1. A coated, moist tongue in an individual that presents a typhoid aspect suggests an abnormal typhoid fever or another disease. 2. Extraordinary intensity of the headache suggests syphilis. 3. Very profuse perspiration bathing the body of the patient

¹ La typhose syphilitique. *Gazette des Hôpitaux*, 1901, vol. lxxiv. p. 63.

is unusual in typhoid fever. 4. Extensive and generalized eruption suggests that the disease, if it be typhoid fever, is a very unusual form. 5. The failure to detect the typhoid bacillus in the stools or in the fluid obtained by puncture of the spleen (to my mind an unjustifiable procedure) suggests the absence of typhoid fever. Examination of the blood is of great value; in syphilitic fever there occur greater oligocythemia, microcythemia, and oligochromæmia than in typhoid fever, and hyperleucocytosis occurs in syphilitic fever, and hypoleucocytosis in typhoid fever. 6. The absence of the Gruber-Widal reaction in all stages of the disease is of great value. Finally, one should seek for evidences of syphilis—the initial lesion or a cicatrix (sometimes difficult to find, especially in women), and evidences of syphilis in the viscera and the skin, etc. In case it be suspected that a syphilitic patient has acquired typhoid fever, the following are of diagnostic value: (1) The absence of the Gruber-Widal reaction; (2) the absence of the typhoid bacillus in the stools and the fluid obtained by puncture of the spleen; and (3) the therapeutic test—the result of anti-syphilitic treatment. It is believed that the syphilitic fever is an expression of syphilitic infection of an organism of lessened resistance.

Scheil¹ reports the case of a man, aged fifty-one years, who, three months before his death, suffered an injury in the region of his stomach. Soon thereafter he complained of pain, vomiting, loss of appetite, hematemesis, and the passing of blood by the bowel. Examination revealed the ordinary signs of bronchitis, and, in addition, pain, tenderness, and rigidity about and below the umbilicus—all of which were relieved by evacuation of the bowels. Subsequently fever, right-sided pleuritis, hemoptysis, collapse, and death occurred. The necropsy revealed a half-litre of fresh blood between the stomach and the liver, and another half-litre between the stomach and the spleen; a funnel-shaped, perforating ulcer, the size of a dollar, on the anterior surface of the stomach, toward the hilum of the spleen; a dense infiltration, with central necrosis, about the size of a dollar, in the region of the pylorus; similar areas of infiltration at eight different regions of the small intestine—some perforated, but all closed by adhesions with the surrounding structures; and many areas of infiltration, grayish-white in color, of firm consistence, without central necrosis, varying in size up to that of a hen's egg, and situated in the lungs. The possible nature of the affection is discussed with especial reference to the likelihood of its being neoplastic or tuberculous, and it is pointed out that it cannot be the one or the other; that tubercle bacilli could not be detected; that microscopically the infiltration consisted of granulation tissue with giant cells; and that the bloodvessels revealed marked endar-

¹ Syphilis mit gummäer Affektion des Magens und Darms so wie der Lungen bei einem 51 jährigen Manne. *Prager medicinische Wochenschrift*, 1900, vol. xzv., No. 45, 46.

teritis proliferans that in some places had progressed to complete closure of the vessels. From these facts it is concluded that the case is one of visceral syphilis.

Einhorn¹ divides syphilitic affections of the stomach into three groups—syphilitic ulceration, syphilitic tumor formations (gummas), and syphilitic stenosis of the pylorus. Illustrative cases of each group are cited. Of interest is the fact that two of the cases of obstruction of the pylorus, in consequence of the failure of the ordinary methods of treatment, would have gone on to operation had not the possibility of their syphilitic nature been borne in mind. It is pointed out that syphilis of the stomach is more common than is generally thought; that tertiary syphilis may give rise to severe disturbances of the gastro-intestinal tract; that in all severe disturbances of the gastro-intestinal tract the possibility of syphilis should be considered; and that such disturbances are amenable to antisyphilitic treatment. A review of cases reported in the literature is given.

Mracek² states that dactylitis is uncommon in acquired syphilis and in adult life, whereas, as a manifestation of hereditary syphilis in infancy it is quite common. Among 50,000 syphilitic patients he has observed five cases of dactylitis—two in adults and three in children. He reports in detail a case occurring in a man, aged thirty years. Careful investigation, including the use of the X-rays, convinced him that the disease develops primarily in the bone, which becomes rarefied, with the coincident formation of peculiar spaces filled with colloid infiltration and exudation masses; and that, secondarily, the joints and the softer tissues become implicated. The deformities are due principally to inflammatory and edematous infiltration of the softer tissues. The affection is almost painless, chronic in its course, and tends to heal, with the production of deformities—ankylosis or flail joints. Treatment should consist in administering large doses of potassium iodide (75 grains daily) for a number of weeks. Mercury may be combined with the iodide, but care must be exercised in its use, as in syphilitic diseases of bones its employment is sometimes attended by unfavorable results.

SYPHILIS AND TUBERCULOSIS. Dieulafoy³ reports two cases of concomitant syphilitic and tuberculous disease of the lung. He states that when a subject for a long time syphilitic (in one of his cases twenty years) becomes affected with tuberculosis of the lungs the prognosis is good, and especially is the tuberculosis likely to pursue a favorable course. He warns against the use of potassium iodide and urges the use of mercury. He suggests the alternate use, for periods of fourteen days, of

¹ Ueber Syphilis des Magens. *Archiv für Verdauungskrankheiten*, 1900, vol. vi, p. 150.

² Zur Dactylitis syphilitica. *Wiener klinische Wochenschrift*, 1900, vol. xiv, p. 432.

³ Association de la tuberculose et de l'syphilis. *La tribune médicale*, 1901, No. 15.

daily injections of biniodide of mercury (0.004 to 0.008 gramme) and of daily injections of cacodylate of sodium (0.05 gramme).

TUBERCULOSIS. At the final session of the recent British Congress on Tuberculosis the following resolutions were unanimously adopted: 1. That tuberculous sputum is the main agent for the conveyance of the virus of tuberculosis from man to man. Indiscriminate spitting, therefore, should be suppressed. 2. All hospitals and dispensaries should present every out-patient with a leaflet on the prevention of consumption, and insist on the use of a pocket spittoon. 3. Notification of tuberculosis should be established when possible. If compulsory notification is impracticable, voluntary notification should be encouraged. 4. The provision of sanatoria is an indispensable part of measures for the diminution of tuberculosis. 5. Medical officers of health should use all their powers and relax no effort to prevent the spread of tuberculosis by milk and meat. 6. In view of the doubt thrown on the identity of human and bovine tuberculosis, the government should be requested to institute an inquiry into the subject. 7. The educational efforts of the great national societies for the prevention of tuberculosis are deserving of support. 8. A permanent international committee should be appointed to report on the measures for the prevention of tuberculosis in different countries, to publish a popular statement of these measures, and to keep and publish a record of scientific research in relation to the disease. 9. Overcrowding, defective ventilation, and the damp and insanitary dwellings of the working classes diminish the chances of curing consumption and are predisposing causes of the disease. 10. The attention of governments and charitable persons should be called to the necessity for establishing anti-tuberculosis dispensaries.

Friedmann¹ publishes the results of an extensive series of investigations concerning the significance of the tonsils as a portal of entry for tuberculosis in young children. The investigations comprise the examination of the tonsils obtained at 91 necropsies, and of tonsils removed by operation from 54 children, with one exception under five years of age. In cases 1 to 3 the tonsillar tuberculosis probably was not primary; in cases 4 to 7, and in case 9 the tuberculosis was most likely primary in the tonsils and secondary in the lymphatic glands, intestine, and bone; in case 8 the tonsils, which contained many tubercles, with giant cells and bacilli, were the only seat of tuberculosis in the body; in cases 10 to 16 (2 with and 5 without tuberculous lesions elsewhere in the body) the tonsils contained typical giant cells, but bacilli could not be demonstrated; in cases 17 to 19 the giant cells in the tonsils were attributed to some process other than tuberculosis; in cases 20 to 30 (cases of

¹ Ueber die Bedeutung der Gaumentonsillen von Jungen Kindern als Einangepforte für die Tuberculosis Infektion. Ziegler's Beiträge zur path. Anatomie, etc., 1900, vol. xxviii, p. 61.

extensive tuberculosis) the tonsils revealed no tubercles, but the presence of old cicatrices suggested the probability of previous tuberculosis; in cases 31 to 34 tuberculosis of the internal organs was unassociated with tuberculosis of the tonsils; in cases 35 to 37, although the tonsils presented no tuberculous alterations, tubercle bacilli were demonstrated in smear preparations made from the surface of the organs; in the remaining 54 cases tuberculosis was found nowhere in the body. In only one of the 54 cases of operative removal of the tonsils from living children were tuberculous lesions detected that could be looked upon as primary. It is believed that although strong children with chronic hypertrophy of the tonsils rarely have tuberculosis of the tonsils, tuberculosis of the tonsils in children in general is quite common; and that it is not likely that infection occurs by means of the lymph-stream, the blood-stream, or by inhalation, but rather by means of the food. Following the primary infection there occurs a descending tuberculosis of the lymph glands, the result of infection through the lymph-stream.

INFLUENZA. Michel,¹ writing of the pulmonary complications of influenza, gives expression to some opinions that evidently are founded more on speculation than on morbid anatomy. In the pathogenesis of these complications especial significance is attached to atmospheric influences as well as to predisposition, such as infections and intoxications, more especially alcoholism. Distinction is drawn between primary complications (due to the influenza bacillus) and secondary complications (due to mixed infection). The primary complications comprise the simple catarrh, the acute bronchitis, "fluxion de poitrine," a congestion simulating diaphragmatic pleuritis, and a "hæmoptytic congestion;" the secondary complications comprise splenopneumonia, bronchopneumonia, and pneumonia. To many of us such terms are unusual, at the least. According to Michel, the "fluxion de poitrine" is of sudden onset, and implicates the lungs, the pleura, chest wall, and the nerves. The patient complains of marked pain, aggravated by deep inspiration, coughing, and pressure, and mucous, mucopurulent, and sometimes sanguinolent expectoration. Examination reveals dulness, diminished or rough vesicular breathing, and friction-sounds. Pleural exudation may occur, and the congestion may progress to hepatization of the lung; the process, however, usually is confined to congestion. This "fluxion de poitrine" is not uncommon in French literature, and is said to be a process midway between "congestive bronchitis" and bronchopneumonia. In America, at least, such condition is not recognized. The ordinary "fluxion de poitrine" we should recognize probably as a bronchopneumonia, and should the condition progress to hepatization we should probably interpret the phenomena

¹ Des complications pulmonaires de la Grippe. *Le Bulletin Médical*, 1901, vol. xv, p. 285.

as indicating the confluence of bronchopneumonic foci. Nor can it be said that a form of congestion of the lungs simulating diaphragmatic pleuritis is recognized in America. Michel recognizes it by the occurrence of pains at the lower portion of the thorax (the insertion of the diaphragm), pain in the neck (from implication of the phrenic nerve), hiccough, sometimes uncontrollable vomiting, and more or less evidences of inflammation of the lower portions of the lungs and pleuræ. His "hæmoptytic congestion" is of interest in that in case of severe hæmorrhage the condition may be mistaken for pulmonary tuberculosis. It is difficult to understand what is meant by "splenopneumonia." Attention is directed to certain peculiarities of the course of influenza pneumonia, especially to the insidious onset and to the difficulty sometimes experienced in distinguishing it from typhoid fever, especially pneumotyphoid. The Gruber-Widal reaction is said to be of value, and to this might have been added the examination of the expectoration for the influenza bacillus. Mention is made of the occurrence of delayed resolution, of abscess of the lung, of gangrene of the lung, and of a condition designated "bronchoplegio à signes pseudocavitaires." This condition, which we should probably designate bronchiectasia, is termed bronchoplegia because it is thought that the stagnation of the bronchial secretion and the excessive suppuration in the dilated bronchi are due to paralysis of the bronchial muscles. The condition is of importance in that it may be mistaken for abscess or tuberculous cavity formation in the lung, both of which conditions have a much more serious outlook than has the "bronchoplegia."

Castellani¹ has examined bacteriologically nine cases of complications and sequels of influenza—pneumonia, bronchopneumonia, pleuritis, empyema, suppuration of the ear, meningitis, arthritis, and enteritis. The investigations comprised bacteriological examination of the expectoration, pleural exudate, joint fluid, cerebro-spinal fluid, lung "juice," and the blood. Influenza bacilli were found only in the expectoration and in the pus from the ears, and not in pure culture, but mixed with pneumococci in excessive numbers. Animals inoculated with these fluids died of pneumococcic sepsis. Examination of the cerebro-spinal fluid led to indefinite results. The remaining secretions and the blood revealed only pneumococci. In addition, Castellani examined the blood in twenty-one cases of typical influenza, and in a number of other cases with complications. In all cases of pneumonia and bronchopneumonia he found only pneumococci. It is believed that the influenza bacillus may be the cause of the complications of influenza, but that, as a rule, this bacillus does not enter the circulation, and that many complications are produced by the pneumococcus.

¹ Contributo allo studio batteriologico di alcune complicanze dell' Influenza. Riv. crit. di clin. med., 1901, No. 2. Fortschritte der Medizin, 1901, vol. xix. p. 781.

In contrast with these opinions, the opinions of Jehle¹ may be cited. This writer details the results of his investigation of a number of cases of scarlet fever, measles, varicella, pertussis, diphtheria, and a number of different diseases in adults, with reference to mixed infection with the influenza bacillus. It was ascertained that influenza is a common secondary infection in childhood, and that it may occur early in the course of the primary disease. The influenza infection usually is in the lower respiratory tract, but it may remain localized to the tonsils, and it may assume an epidemic character. With the occurrence of influenza mixed infection an increased morbidity and mortality develops. In the acute exanthemas there occurs regularly an invasion of the blood-stream with the influenza bacillus, which may enter from the tonsils (this statement is of especial importance and interest as contrasted with the observations of Castellani, previously cited). This bacteremia may occur very rapidly, and in scarlatina it may be observed even before the eruption. In the non-exanthematic diseases and in adults the influenza bacillus is but rarely found in the blood. If, however, influenza bacteremia does occur, severe organic lesions—endocarditis, pleuritis, brain abscess, etc.—usually occur also. It is believed that the exanthemas in some manner predisposes the body to infection with the influenza bacillus and facilitate the entrance of the influenza bacillus into the blood-stream.

Franke² states that he has observed with great regularity in influenza a striated redness of the anterior faucial arch, whereas the uvula, the lateral part and about two-thirds or three-fourths of the velum palati, and sometimes the free edge, retain their normal color. This is said to be especially valuable as a diagnostic sign in cases of chronic influenza. He has observed also swelling of the anterior papillæ of the tongue—a swelling exceeded in degree only in cases of scarlatina and in a few cases of measles. This swelling may occur on the second or third day of the disease, and possesses the same diagnostic significance as does the redness of the faucial arch. Finally, attention is directed to the diagnostic value of enlargement of the spleen, said to occur especially in the chronic forms of the disease.

Federn³ states that in influenza the blood pressure (measured with von Basch's sphygmomanometer) is abnormally low, that this results from disturbance of the cardiac nerves, and that it occurs so constantly that it is of diagnostic value. Inferentially, it is said that most of the symptoms in influenza are due to defective circulation—that they are quasi congestive symptoms. The blood pressure is thought to have

¹ Zeitschrift für Heilkunde, 1901, vol. xxii. p. 190.

² Ueber ein typisches Influenzasymptom, die Influenzangina, und über Influenzazunge und Influenzamilz. Deutsches Archiv für klinische Medizin, 1901, vol. lxx. p. 250.

³ Ueber Influenza. Wiener medizinische Wochenschrift, 1901, vol. i. p. 1162.

prognostic value in influenza, in that those patients that have high pressure before the attack (in consequence of increased resistance of the vessel wall) are less resistant and recover from the disease slower than do others.

Potrucci¹ reports a number of cases of influenza during the course of which there occurred hemorrhages of different sorts—epistaxis, hæmoptysis (of all grades from slight tingling of the expectoration to profuse hæmoptysis), metrorrhagia, hæmaturia, etc. He believes that one is justified in speaking of a hemorrhagic form of influenza in addition to the catarrhal, the nervous, and the gastro-intestinal forms, and he finds justification for this not only in the occurrence of the hemorrhages, but also in the fact that we already speak of hemorrhagic typhoid fever, hemorrhagic scarlatina, etc., and in the fact that the development of hemorrhage in influenza is indicative of a malignant type of the disease and influences materially the prognosis. In these cases convalescence is much prolonged if the hemorrhage does not lead directly to the death of the patient, as occurred in one of the cases reported.

Huber² states that recently following an epidemic of influenza in which all of the seven members of a family were affected, four suffered with suppurating buboes and lymphangitis. Of these, three (not the father) previously had been vaccinated, and the buboes were confined to the glands of the axilla. It is presumed that these glands were a locus minoris resistentie from the vaccination. The father's bubo was in the inguinal region. The buboes contained only streptococci—no influenza bacilli or plague bacilli. Recovery ensued in all cases. It is presumed that, aside from rendering the glands less resistant, the vaccination had nothing to do with the infection—a hæmatogenous general infection with the streptococcus. This opinion is borne out by the situation of the bubo in the father. The case is reported as an instance of heterochronous polyinfection—that is, mixed infection with the influenza bacillus and the streptococcus.

Ford³ recently has written of acute nortitis occurring in the course of influenza, of which condition he has observed eighteen cases. In its manifestations it is said to resemble the condition as it occurs in other acute infectious diseases, notably typhoid fever. It affects especially patients past thirty years—those, therefore, whose arteries perhaps already show some of the consequences of wear and tear. It involves especially the arteries of the legs; usually those of one leg, but sometimes those of both. It is most likely to develop during convalescence from influenza, but it has been noticed to occur some time after apparent recovery. The onset usually is sudden and manifested by pain (that

¹ Ein Beitrag zur Casuistik der Hæmorrhagien bei Influenza. Wiener medicinische Presse, 1900, vol. xli. p. 1770.

² Ueber eine Familiäre Streptococcenerkrankung nach Influenza. Correspondenzblatt für Schweizer Aerzte, 1901, vol. xxx. p. 233.

³ Thèse de Paris, 1901.

may be so severe as to require morphine), tenderness along the course of the inflamed artery, paresthesia (that may even precede the pain), lowering of the temperature of the affected part, and mottling of the skin. Arterial obliteration is indicated by cessation of pulsation below the site of obstruction. This may be temporary and followed by restoration of the circulation without damage to the part; or it may be permanent and followed by gangrene. The gangrene usually is of the dry variety, but it may be moist if there be associated phlebitis. In the event of gangrene there may occur sphacelation of the gangrenous area and recovery, or there may occur general infection and death. Of fifteen patients, six died. As regards treatment, it is recommended to encase the affected limb in wadding and splints, and to apply methyl salicylate or an ointment of salicylic acid, turpentine, and belladonna. The pain, if severe, should be relieved by morphine, and in the event of certain complications surgical intervention is called for.

Diemer,¹ writing of influenza polyneuritis, states that usually it develops during convalescence (as does diphtheritic neuritis), within from ten days to one month from the beginning of the infection. The initial manifestations may be either sensory or motor; the latter occur constantly without any special predilection for particular muscles. While all the muscles may become affected, the muscles of the upper or the lower extremity of one side or of the trunk, or of the neck, are most frequently affected. Frequently, also, the muscles of the face and the muscles supplied by the vagus are affected. Less frequently the oculomotor, the abducens, the optic, and the auditory nerves are affected, and exceptionally the nerves of the palate, the pharynx, and the diaphragm. Paralyzes that involve the extremities diminish in intensity as the trunk is approached. Reactions of degeneration are constant. Ataxia is common, and the gait may resemble that of a tabetic; flaccid paralysis is constant. Disturbances of sensation are more or less pronounced; they are usually less intense than are those that occur in other polyneuritides, notably the alcoholic. Trophic and vasomotor disturbances are not conspicuous. The skin and tendon reflexes are diminished or absent. The course of the affection may be acute or subacute. General and localized forms may be distinguished. Complete recovery usually occurs; in some cases, however, more or less atrophy of certain groups of muscles persists. The treatment, as a rule, should be symptomatic; but especial attention should be directed to hygienic and dietetic measures, that recurrences may not occur.

PNEUMONIA. Schultz² directs attention to the fact that during recent years increasing support has been given the view that croupous pneu-

¹ La polyévrte grippale. *Gaz. hebdom. de méd. et de chir.* 1901, vol. xlviii. p. 87.

² Contribution à l'étude de la pneumonie fibrineuse. *Archives des sciences biologiques de St. Pétersbourg*, 1901, vol. viii. p. 1.

monia is due to a primary pneumococcic infection of the blood and a secondary infection of a lung that has become reduced in resistance rather than to a direct infection of the lung through the respiratory passages. In an attempt to confirm this view through experimental investigation he injected pneumococci into the jugular veins of lower animals, and after their death he examined their lungs microscopically, even when they presented no naked-eye deviations from the normal. He states that the lesions of pneumonia were evident in all the lungs, and that these lesions corresponded to those of red hepatization in the human subject. The bloodvessels of an entire lobe or of some of the lobules were dilated and contained many leucocytes (mostly mononuclear) and many pneumococci. The walls of the alveoli were infiltrated with young cells, and the alveolar epithelium had desquamated. In the lumen of the alveoli considerable quantities of fibrin formed early; in the later stages this was mixed with erythrocytes, so that in some instances the lumen of the alveoli was completely filled. It is concluded that pneumonia may be induced in rabbits merely by injecting pneumococci into the blood-stream—that is, without previous alterations in the lung. Regarding the question how infection of the blood occurs in man—that is, infection of the blood previously to infection of the lung—an opinion is withheld.

TYPHOID FEVER. Recently a number of studies of what may be termed the nervous manifestations of typhoid fever have been published. Thus Debove,¹ directing attention to the fact that most of the symptoms of typhoid fever are nervous in nature, and are to be attributed to the action of the typhoid toxin on the nervous system, reports the case of a man, aged twenty years, who, in September, 1900, passed through an attack of typhoid fever with intestinal hemorrhages. At the end of about two months the patient was considered well enough to be discharged from the hospital, but that same day he became ill with lumbar pain, fever, and delirium, said to have resulted from mental excitement. The lumbar pain increased in severity until about the middle of December, when after a short walk it became so severe that the patient was unable to move his lower extremities. With rest in bed the pain abated somewhat, but it recurred with severity as soon as any attempt at movement was made. Examination revealed motor, sensory, trophic, and vasomotor disturbances. The lumbar pain was much increased by pressure over the sacrum. Spontaneous pain or disturbances of sensation were not present in the lower extremities, but on attempting to walk there occurred severe pain extending from the lumbar region through the legs. The legs were distinctly paralyzed and atrophied. The temperature on the first day ranged between 38° C. and 38.5° C.,

¹ Sur un cas de paraplégie post-typhique. *Le Bulletin Médical*, 1901, vol. xv. p. 111.

on the seventh day it was 40.4° C., and on the twelfth day it reached normal. At this time the lumbar pains and the other manifestations gradually subsided. At the time of the report, when at rest the patient had no complaints; when he attempted to walk, however, slight pains in the lumbar region occurred. He was able, nevertheless, to ascend stairs without especial difficulty. Sensation was normal, but in the lower extremities there was distinct atrophy. The case is considered an instance of post-typhoid paralysis due to circumscribed inflammation of the lower portion of the spinal meninges.

Foulerton and Thomson¹ state that the nervous symptoms of typhoid fever may be due either to the direct action of the specific bacillus or to the action of secondary invaders. It is difficult to determine clinically the range of activity of each of these, though it is stated that in the beginning of the disease the typhoid bacillus alone is probably the active agent; later, other bacteria may play a rôle, as we know they are active in producing the intestinal lesions. The symptoms referable to the typhoid bacillus may be produced by either the bacillus acting directly or by its toxin. The toxæmia may give rise to manifestations of severe irritation of the brain, which sometimes can be distinguished from the meningitis due to the typhoid bacillus or other organisms only by the onset of paralysis or optic neuritis. Two cases illustrating the two forms of cerebral disturbance are reported. The first case was that of a girl, aged nine years, who suffered from severe toxæmia. She was noisy and restless, passed into a low, muttering delirium, and died. No alterations were found in the brain, and cultures from the brain gave negative results. The second case was that of a boy, aged twelve years, who was thought to be suffering from tuberculous meningitis until the Gruber-Widal reaction was obtained. The necropsy revealed marked congestion of the meninges, and bacteriological investigation revealed the typhoid bacillus. This is therefore a case of true typhoid meningitis, of which it is said that eighteen cases have been reported. The writers undertook the study of the action of the typhoid toxin on the ganglion cells of the central nervous system by injecting living cultures of the typhoid bacillus and the typhoid toxin into rabbits, and studying the brain lesion. Aside from occasional slight swelling and indistinctness of the details of the cells, no noteworthy alterations were detected; from which it is concluded that typhoid infection or typhoid toxæmia does not produce noteworthy discoverable alterations in the ganglion cells of the nervous system.

A year or more ago, at the German Hospital, I performed a necropsy on a subject dead of fibrinopurulent meningitis complicating typhoid fever. From the exudate the typhoid bacillus was obtained in large

¹ The Causation of Nervous Symptoms in Typhoid Fever. *Lancet*, 1900, vol. 1. p. 1121.

numbers and in pure culture. The case will be reported shortly by the assistant pathologist to the hospital, Dr. Edward Kemp Moore.

Salomon¹ points out that he has observed that in a number of cases of typhoid fever the optic disk presents an appearance suggesting cerebral tumor—not a distinct papillitis, but a veiling of the disk, with indistinctness of its edges, injection of the capillaries, dilatation and tortuosity of the veins. Performing lumbar puncture, he found the spinal fluid under high pressure—from 180 to 250 mm. of water. The fluid was sterile, contained about the normal amount of albumin and of leucocytes, and did not cause agglutination of the typhoid bacillus, although in each of the three cases investigation of the blood-serum did cause such agglutination—in one case even when diluted 1 to 500. It is believed that an acute serous meningitis is very common in typhoid fever, and that to this is due one of the characteristic features of the disease—the slow pulse. Spinal puncture was followed by subsidence of the headache.

Stadelman² points out that in his previous communication on lumbar puncture he referred to the symptoms of brain pressure not only in typhoid fever, but also in pneumonia, scarlatina, etc., and he attributes them to an angioneurotic hydrocephalus the result of the action of the typhoid toxin. He has not observed the good effects of lumbar puncture reported by Salomon.

Kühn³ reviews briefly the previously reported cases of typhoid spondylitis, and reports a personal observation of his own. The case was an instance of severe typhoid infection in which, thirty days after the temperature had become normal, vague pains developed in the lumbar region. Gradually a circumscribed swelling and marked tenderness on pressure developed in the region of the lumbar vertebrae, and these were associated with excessive pain on motion of the trunk. In the course of about a week a distinct lumbar kyphosis developed, but symptoms of compression of the spinal cord did not appear. Gradually the pain and tenderness lessened and the kyphosis disappeared, so that at the end of about three months the patient could be discharged from the hospital. It is stated that, according to Quinke, who first described typhoid spondylitis, its principal characteristics are tenderness of certain spinous processes and manifest swelling over the affected part. To these Kühn adds the kyphosis, which, however, has been observed in but few cases, and is to be attributed probably to destructive processes in the body of the vertebrae. Treatment should consist in absolute rest in bed and the local application of cold. In the event of serious symptoms antiphlogistic remedies may be called for—even in some cases orthopedic appliances.

¹ Berliner klin. Wochenschrift, 1900, No. 6.

² Ibid., 1900, No. 8.

³ Ueber Spondylitis typhosa. Münchener medicinische Wochenschrift, 1901, vol. XLVIII, p. 925.

Mannini¹ directs attention to what he believes to be the rather common occurrence of peritonitis in typhoid fever in the absence of perforation of the intestine. He states that in typhoid fever the intestinal epithelium has lost its protecting power; that the lymph vessels of the intestine are inflamed, and that this inflammation extends not only to the serous covering of the intestine, but even to the mesenteric lymph glands; that the typhoid bacillus is present in the spleen, the liver, and the kidney; and that as it finds its way to these organs so also does it find its way to the peritoneum. It is believed that the reason that peritonitis does not occur more frequently in consequence of such infection of the peritoneum by the typhoid bacillus is because the peritoneum possesses marked absorptive powers and is able to destroy bacteria such as the staphylococci, the bacterium coli commune, and the typhoid bacillus. This bactericidal property is associated with the presence of leucocytes and the peritoneal serum. It is believed that there occurs in the course of typhoid fever and during convalescence an acute peritonitis that is not a perforative peritonitis; that this is due to propagation and diffusion through the intestinal wall of the specific infective agent; that such propagation and diffusion occur in every case of typhoid fever, but that peritonitis results only when the resorptive and bactericidal properties of the peritoneum have been overcome. Such peritonitis is said to give rise to symptoms similar to those of perforating peritonitis, from which it is to be distinguished by the absence of gas in the peritoneum. It gives a better prognosis, and its treatment is medicinal.

Osler² has drawn up the following schedule of specific directions to be followed in cases of typhoid fever in which perforation is suspected; though intended especially for use in hospital practice, they are of general adaptability and of great value: 1. Instructions should be specific and definite to the night superintendent and head nurses to notify the house physician of any complaint of abdominal pain by the patient, of hiccough or vomiting, of a special rise of pulse or respiration, of sweating or of signs of collapse. 2. House physicians should note the character of the pain, as to (a) onset—whether only an aggravation of slight abdominal pain, such as is common both with constipation and with diarrhoea, or whether it was sudden, intense pain which caused the patient to call out, and which, though relieved by stupes and ordinary measures, soon recurred in paroxysms and grew worse; and (b) the locality—whether diffuse or localized in the hypogastric or right iliac regions; radiation, as to penis. It is to be borne in mind that abdominal pain of a severe character may be associated

¹ Sulla peritonite da propagazione dall'intestino nel corso della febbre tifoidea. *Riforma med.*, 1900, p. 210. *Centralblatt für Innere Medizin*, 1901, vol. xxii, p. 101.

² On Perforation and Perforative Peritonitis in Typhoid Fever. *Philadelphia Medical Journal*, 1901, vol. vii, p. 116.

with an acute pleurisy, with distended bladder, with cholecystitis, and with a packed rectum, or may follow an enema. 3. State of the abdomen—the conditions to be noted in writing at once as to the following particulars: (a) whether flat, scaphoid, or distended, and, if distended, whether the distention is uniform or chiefly hypogastric; (b) respiratory movements, whether present, if uniform, and seen both below and above the navel; (c) palpation, as to tension and pain, locality and extent, and degree of pressure necessary to elicit; muscle rigidity and spasm, whether present or not, and in which special locality, and noting particularly its absence or presence in the hypogastric region and the right iliac fossa; (d) percussion; character of note in front and in flanks; liver flatness, extent in middle, nipple, and in mid-axillary lines; note specially every third hour; remember, too, that obliteration may occur in a flat as well as in a distended abdomen; auscultatory percussion may be helpful; (e) auscultation; obliteration of signs of peristalsis; presence of friction; (f) examination of the rectum; whether tenderness or fullness between the rectum and bladder; (g) stools; character, frequency, presence of blood or sloughs. 4. General condition of the patient: (a) facies, whether change in expression; risus, slight or marked; pallor; sweating, etc.; (b) pulse, change in rhythm, rate, and force; (c) temperature, whether a drop or not; whether after a tub or not; (d) respiration, sudden increase not infrequent; whether shallow or sighing; (e) sweating, if subject to, during attack; if onset with pain; whether local or diffuse; (f) vomiting, whether with onset of pain or not; character of vomiting; (g) hiccough. 5. Blood-count, leucocytosis, whether stationary or rising; may be marked and early. In a majority of cases well followed there is a rise. The constant leucopenia in typhoid fever has to be taken into account. Also a count of the red blood-corpuscles and hæmoglobin, as a decided drop might indicate hemorrhage.

Considerable attention has been directed recently to the occurrence of typhoid bacilli in the urine of typhoid fever patients, to the occurrence of typhoid cystitis, and to the consequent necessity to disinfect the urine of all typhoid fever patients—Gwyn,¹ Curschmann,² Neufeld,³ Schumburg,⁴ Smith,⁵ etc. With a view to prevent the occurrence of typhoid cystitis, to rid the urine of typhoid bacilli, and to limit the spread of typhoid fever, the internal administration of urotropin (7 to

¹ The Disinfection of Infected Typhoid Urines. Philadelphia Medical Journal, 1901, vol. vii. p. 80.

² Ueber Cystitis typhosa. Münchener medizinische Wochenschrift, 1900, No. 42.

³ Deutsche medizinische Wochenschrift, December 20, 1900.

⁴ Zur Disinfection des Harns bei Typhusbakteriurie durch Urotropin. Deutsche medizinische Wochenschrift, 1901, No. 2.

⁵ Ueber die echte typhöse Cystitis und ihre Behandlung. Monatsbericht für Urologie, 1901, vol. vi., Part 5.

15 grains three times daily) has been much recommended. In general this is a very valuable remedy, and it is usually well borne. It is well, however, to remember that several cases of hæmaturia following its use have been reported—Brown,¹ Griffith,² Gordon,³ etc.

A number of cases of hemorrhagic typhoid fever have been reported recently by Stahl,⁴ Musser and Sailer,⁵ Hamburger,⁶ Nicholls and Learmonth,⁷ Dickinson,⁸ Eshner and Weisenberg,⁹ etc. Hamburger gives a good review of the literature of the subject. An unusual case of hemoglobinuria complicating typhoid fever and terminating in recovery of the patient is reported by Musser and Kelly.¹⁰

DIPHTHERIA. McCollom¹¹ urges the use of large doses of antitoxin in the treatment of diphtheria, stating that, as we cannot estimate the amount of toxin generated by the diphtheria bacilli in the false membrane, we should administer the antitoxin in dose sufficient to produce the effect desired—that is, shrivelling of the false membrane, lessening of the amount and fetor of the nasal discharge, and improvement in the general condition of the patient. He says that when one sees a patient with membrane covering the tonsils and uvula, profuse sanious discharge from the nose, spots of ecchymosis on the body and extremities, cold, clammy hands and feet, a feeble pulse, and the nauseous odor of diphtheria, and finds that after the administration of 10,000 units of antitoxin in two doses the condition of the patient improves slightly; that after 10,000 units more have been given there is marked abatement in the severity of the symptoms; that when an additional 10,000 units have been given the patient is apparently out of danger; and eventually recovers—one must believe in the curative power of antitoxin. When one sees patients in whom the intubation tube has been repeatedly clogged, when the hopeless condition of the patient changes for the better after the administration of 50,000 units, one cannot help but be convinced of the importance of giving large doses of antitoxin in the very severe and apparently hopeless cases. In the majority of instances these large doses are not required, particularly if the patients are seen

¹ Hæmaturia following the Administration of Urotropin. *British Medical Journal*, 1901, vol. i. p. 1472.

² *Ibid.*, p. 1617.

³ Hæmaturia following the Use of Urotropin. *American Medicine*, 1901, vol. ii. p. 818.

⁴ Gangrenous Dermatitis Complicating Typhoid Fever. *Transactions of the College of Physicians of Philadelphia*, 1900, vol. xxi. p. 33.

⁵ *International Medical Magazine*, 1899, vol. viii. p. 827.

⁶ *Johns Hopkins Hospital Reports*, 1900, vol. viii. p. 309.

⁷ The Hemorrhagic Diathesis in Typhoid Fever, etc. *Lancet*, 1901, vol. i. p. 805.

⁸ A Case of Hemorrhagic Typhoid Fever. *Lancet*, 1901, vol. ii. p. 24.

⁹ Hemorrhagic Typhoid Fever. *AMERICAN JOURNAL OF THE MEDICAL SCIENCES*, 1901, vol. cxii. p. 281.

¹⁰ Hemoglobinuria Complicating Typhoid Fever. *Philadelphia Medical Journal*, 1901, vol. vii. p. 119.

¹¹ A Plea for Large Doses of Antitoxin in the Treatment of Diphtheria. *Boston Medical and Surgical Journal*, 1900, vol. cxxiii. p. 627.

early in the attack, 4000 to 6000 units being enough to produce the characteristic effect on the membrane. Dr. Osler¹ suggests that those in charge of institutions who still have any lingering doubts (concerning the efficacy of diphtheria antitoxin) should, in the interests of their little patients, and in a spirit of humility, visit the South Department of the Boston City Hospital, and learn a few salutary lessons from its director, Dr. McCollom.

REPORT OF A CASE OF FIBRINOUS BRONCHITIS, WITH A REVIEW OF ALL CASES IN THE LITERATURE.²

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CASES of fibrinous bronchitis, or plastic bronchitis, or bronchitis pseudomembranosa, or bronchial croup, are as interesting as they are rare. The following is the history of a case observed in the Maternity Ward of the Johns Hopkins Hospital in September last.

Maggio S., colored, aged twenty-two years; II.-para. Rather emaciated looking; very dull mentally.

Family History. No tuberculosis; father suffers from rheumatism; otherwise negative.

Past History. Labors normal. Menstrual history normal. Six years ago, in the fall, she had an attack similar to the attack observed in the hospital, the symptoms being cough, pain, respiratory distress, profuse expectoration, containing, evidently from patient's description, branching casts. Following this attack she had "pneumonia," being confined to bed one month. Every year in the fall since that time she has had similar attacks. These attacks had no relationship to her previous pregnancies, which occurred two and three years previous to entrance to hospital, respectively. (See Note I.) She has lost in weight throughout the last two years. She entered the hospital in the ninth lunar month of her pregnancy, on July 27th. At the time of her entrance she had a temperature of 101.5°, which, in two or three days, had dropped to normal. From this time until the time of her delivery there is no note on her history of any abnormal condition, and for the last twelve days of this period she was under personal observation and nothing abnormal was noted. She was delivered on September 12th. She came to the delivery-room with a normal temperature, no cough, respiratory distress, or expectoration.

Present Illness. Her puerperium was normal except for a slight cough and a slight evening temperature—100° to 101°. She had the signs of a light bronchitis, lengthened expiration, and crepitant rales at the bases in the back.

On the tenth day she was allowed up in her chair, but the discomfort

¹ The Principles and Practice of Medicine, 1901, fourth edition, p. 155.

² Parts of this paper were read at the Johns Hopkins Medical Society on June 2, 1901, and specimens demonstrated.